

# PATENT ABSTRACTS OF JAPAN

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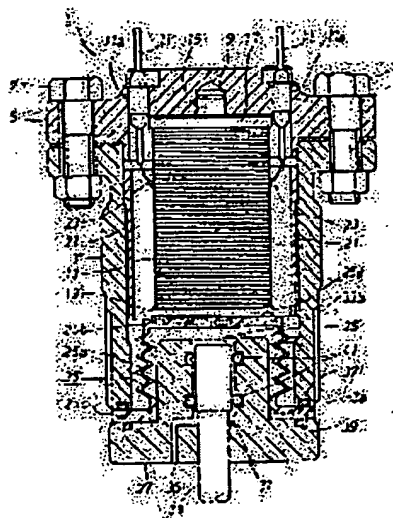
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## (54) PIEZOELECTRIC ACTUATOR

### (57)Abstract:

PURPOSE: To prevent any destruction of a piezoelectric element and malfunction of an actuator by sealing a fluid between an elastic member and a movable member, and fixing the piezoelectric element to a part of the elastic member.

CONSTITUTION: The end face of bellows 25 is fixed to a plunger barrel 27, thereby a fluid is sealed in a chamber 29 formed by the bellows 25, the plunger barrel 27, and a plunger 33. The upper face 25a of the bellows 25 are fixed to a piezoelectric element 13 by which the bellows 25 can be driven. Therefore, if the piezoelectric element 13 is inclined, any eccentric stress is not applied on the piezoelectric element 13, thereby the destruction of the piezoelectric element 13 is prevented as the concentration of the stress does not occur therein. In addition, even if the direction of the pressure to be added to the chamber 29 is changed, the force is applied on the plunger 33 always in the direction of the movement thereof so that any malfunction of an actuator can be prevented.



## LEGAL STATUS

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